

The Environmental Statement

The Environmental Statement and this Non-Technical Summary have been prepared by Environmental Resources Management (ERM), on behalf of DLRL. ERM is an independent environmental consultancy with extensive experience of undertaking Environmental Impact Assessments of transport infrastructure schemes. Copies of the Environmental Statement are available for inspection at the following locations:

Docklands Light Railway Ltd
PO Box 154, Castor Lane, Poplar,
London E14 0DX
(Opening Hours: 9.00am-5.00pm Mondays to Fridays)

London Borough of Newham
Environmental Department, 25 Nelson Street,
East Ham, London E6 2RP
(Opening Hours: 9.00am-5.00pm Mondays to Fridays)

Bircham Dyson Bell
Solicitors and Parliamentary Agents,
50 Broadway, Westminster, London SW1H 0BL
(Opening Hours: 9.30am-5.30pm Mondays to Fridays)

Hackney Central Library
Technology and Learning Centre,
1 Reading Lane, London E8 1GQ
(Opening Hours: Monday 9.00am-8.00pm, Tuesday 9.00am-8.00pm, Wednesday 9.00am-6.00pm, Thursday 9.00am-8.00pm, Friday 10.00am-8.00pm, Saturday 9.00am-5.00pm, Sunday Closed)

Stratford Library
3 The Grove, Stratford, London E15 1EL
(Opening Hours: Monday 8.00am-8.00pm, Tuesday 9.30am-5.30pm, Wednesday 9.30am-5.30pm, Thursday 8.00am-8.00pm, Friday 9.30am-5.30pm, Saturday 9.30am-5.30pm, Sunday 1.00pm-5.00pm)

Plaistow Library
North Street, Plaistow, London E13 9HL
(Opening Hours: Monday 9.30am-5.30pm, Tuesday 9.30am-5.30pm, Wednesday Closed, Thursday 1.00pm-8.00pm, Friday 9.30am-5.30pm, Saturday 9.30am-5.30pm, Sunday Closed)

Canning Town Library
Barking Road, Canning Town,
London E16 4HQ
(Opening Hours: Monday 9.30am-5.30pm, Tuesday 9.30am-5.30pm, Wednesday Closed, Thursday 1.00-8.00pm, Friday 9.30am-5.30pm, Saturday 9.30am-5.30pm, Sunday Closed)

Custom House Library
Prince Regent Lane, Custom House,
London E16 3JJ
(Opening Hours: Monday 9.30am-5.30pm, Tuesday 9.30am-5.30pm, Wednesday Closed, Thursday 1.00-8.00pm, Friday Closed, Saturday 9.30am-5.30pm, Sunday Closed)

North Woolwich Library
Storey School, Woodman Street,
North Woolwich, London E16 2LS
(Opening Hours: Monday 9.30am-1.30pm and 2.30pm-5.30pm, Tuesday 9.30am-1.30pm and 2.30pm-5.30pm, Wednesday Closed, Thursday 1pm-5pm and 5.30pm-8pm, Friday 9.30am-1.30pm and 2.30pm-5.30pm, Saturday 9.30am-1.30pm and 2.30-5.30pm, Sunday Closed)

Beckton Globe Library
1 Kingsford Way, Beckton, London E6 5JQ
Opening Hours: Monday 9.30am-5.30pm, Tuesday 1.00pm-8.00pm, Wednesday 9.30am-5.30pm, Thursday 9.30am-8:00pm, Friday 9.30am-5.30pm, Saturday 9.30am-5.30pm, Sunday 2.00pm-5.00pm)

The Environmental Statement can also be viewed online at www.dlr.co.uk

Further copies of this document are available from the address below.

Non-technical summary of the Environmental Statement

Transport and Works Act 1992
Docklands Light Railway (Stratford International Extension) Order



DLR Stratford International Extension Project
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MAYOR OF LONDON



The Docklands Light Railway Stratford International Extension

Docklands Light Railway Limited (DLRL), as part of Transport for London, is proposing a new DLR link between Stratford International station (which is planned as part of the Channel Tunnel Rail Link) and the existing DLR station at Royal Victoria. The scheme is referred to as the DLR Stratford International Extension.



The new link will use the existing North London Line between Stratford and Royal Victoria. An extension will be constructed around the Stratford Rail Lands development to Stratford International station. A connection will be provided to the existing DLR Beckton route, London City Airport Extension and Woolwich Arsenal Extension.

The proposed scheme will involve the closure of:

- the section of the North London Line between Stratford and North Woolwich; and
- Custom House, Silvertown & London City Airport and North Woolwich heavy rail stations.

The area south of Canning Town will be served by two new DLR stations at Silvertown and King George V, provided as part of the DLR London City Airport Extension, which is due to open in December 2005.

The Stratford International Extension will include the construction of four new DLR stations – at Stratford International, Stratford High Street, Abbey Road and Star Lane. The new line will serve key regeneration sites in the Lower Lea Valley and provide a connection between Stratford International and Stratford Regional stations. The scheme will also serve the Olympic Park and other venues hosting the London 2012 Olympics.

About this document

To obtain the powers necessary to construct the project, DLRL is applying to the Secretary of State for Transport for what is known as a "Transport and Works Act Order". As part of the application process, DLRL is required to provide the Secretary of State with an Environmental Statement (ES) setting out the environmental effects of the scheme. This enables the Secretary of State to make a decision about the scheme based on a full understanding of any impacts, positive or negative, that the scheme might have on the local environment. This document is a non-technical summary (NTS) of the ES. The purpose of an NTS is to provide an overview, in non-technical language, of the main findings of the ES.

Why is the project being promoted?

The Mayor's Transport Strategy (2001) for London emphasises the need to develop the capacity of the transport network to meet the requirements of London's growth, particularly in east London. It acknowledges the key role that the DLR has played in enabling the continued development in the City and Docklands and the regeneration of east London.

The main aims of the DLR Stratford International Extension are to:

- support the regeneration of areas along the route of the scheme; and
- provide improved public transport capacity, reliability, accessibility and frequency on this section of the North London Line.

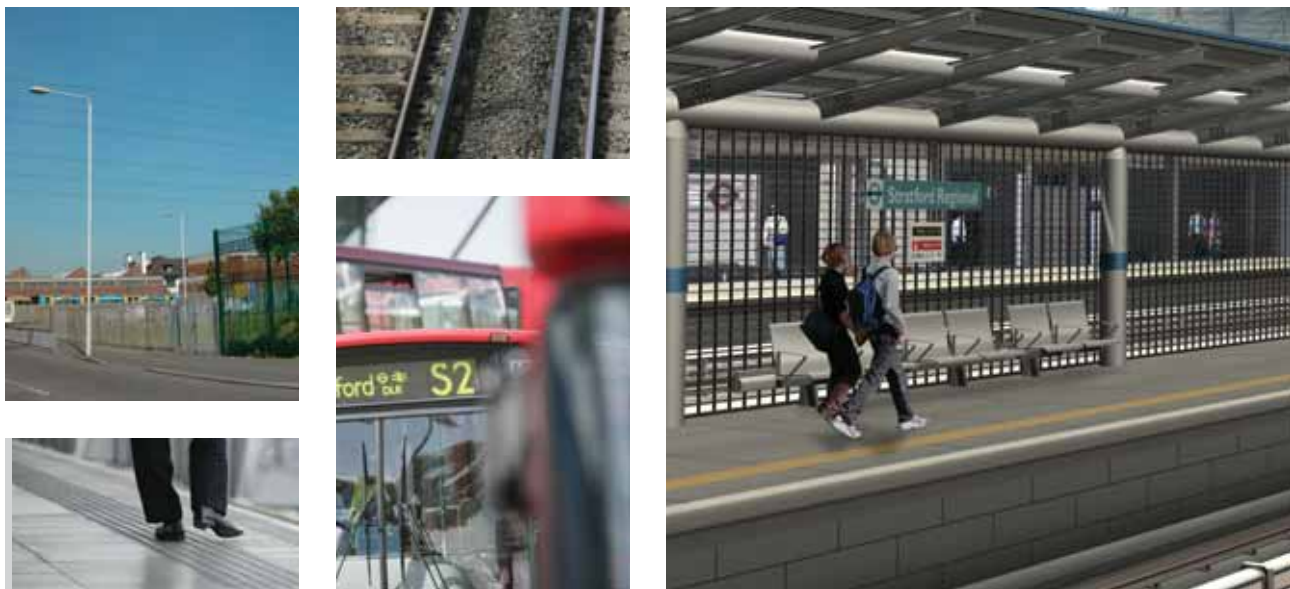
Train services on the DLR Stratford International Extension will be of a higher frequency and capacity than those currently operating on the North London Line. The area will be linked by direct services or by interchange to areas including Canary Wharf, the City of London, Beckton, Woolwich Arsenal, the Olympic venues and regeneration areas in the Lower Lea Valley.



Alternative design options

A number of alternative designs were explored before deciding on the final Stratford International Extension scheme. The following criteria were considered when assessing each of these alternatives:

- **Environment**
The positive and negative environmental impacts of each option.
 - **Economy**
The cost and value for money of each option.
 - **Safety**
The contribution that the option would make to reducing accidents and improving security.
- **Accessibility**
Improving access to the transport system.
 - **Integration**
Whether the option would help to improve interchange with other transport services and whether it would integrate with Government policies.



Summary of options considered (with selected options outlined in bold)

Location	Options Considered				
	Station Options	Access Options	Interchange Options	Junction Options	Alignment Options
Stratford International	1. Parallel option – high level.	None	None	N/A	1. Tear Drop Alignment.
	2. High Meads Rail Loop option – low level.				2. Direct Alignment.
	3. Parallel option – low level.				
	4. High Meads Rail Loop option – high level.				
Stratford Regional (North London Line)	1. Island platform to the north.	None	1. Lift and stair access to western and central subways, plus stair access to eastern subway.	1. 'Scissors' crossover approach.	1. Single track approach to platforms over the existing North London Line.
	2. Island platform parallel to the station (option '0224').		2. Lift and stair access to central subway only, plus stair access to western and eastern subways.	2. Two crossovers (sections of connecting track).	2. Continuous double track approach to platforms.
	3. Island platform parallel with Platform 12.		3. Lift and stair access to central subway only, plus stair access to eastern subway only.		
Stratford Regional (Low level)	1. Platforms close to existing North London line platforms.	None	None	N/A	None
	2. Platforms further to the south.				
Stratford High Street	1. Island platform with re-alignment of Bridge Road.	1. Footbridge landing in workshop car park.	N/A	N/A	None
	2. Island platform with closure of Bridge Road.	2. Footbridge landing in east footway of Burford Road.			
	3. Side platforms with closure of Bridge Road.	3. Footbridge landing in west footway of Burford Road.			
		4. Footbridge link into first floor of workshops.			

Alternative design options

Summary of options considered continued

Location	Options Considered				
	Station Options	Access Options	Interchange Options	Junction Options	Alignment Options
Abbey Road Station	1. Station / minor track realignment to the north of Abbey Road.	None	N/A	N/A	None
	2. Station to the south of Abbey Road.	1. Northern access from Pond Road.			
		2. Southern access from Pond Road.			
	3. Station to the north of Abbey Road, with minor track realignment to the south.				
West Ham Station	None	None	None	N/A	None
Star Lane (formerly Cody Road) Station	1. Station at Star Lane.	None	N/A	N/A	None
	2. Island platform, south of Stephenson Road bridge.				
	3. Island platform, further to the south of Stephenson Road bridge.				
	4. Side platforms, south of Stephenson Road bridge.				
Canning Town Station	None	None	1. Subway Link.	N/A	None
			2. Footbridge Link.		
Junction between DLR routes to Beckton and London City Airport	N/A	N/A	N/A	1. Ground-level junction.	None
				2. Rail flyover.	
Royal Victoria	1. Do Nothing.	None	None	N/A	None
	2. Provision of a third platform face.				

The preferred options, and the main reasons behind their selection, are as follows.

- The new DLR station at *Stratford International* will be located parallel to the proposed mainline international station at low level. This arrangement will provide good interchange between the stations and will minimise the intrusiveness of the new DLR station within the Stratford City development.
- The new *Stratford Regional* North London Line station will be an ‘island’ platform parallel to the existing high level platforms. This arrangement will give the best possible access for passengers, including lift access to both of the main subways at the station. The new DLR platforms at the station will be constructed in the location of the existing North London Line platforms at low level.
- The new DLR station at *Stratford High Street* (formerly Stratford Market) will consist of side platforms with tracks slewed into Bridge Road, which will be closed. This arrangement will ensure that the width of the railway corridor, and the additional structures required, are kept to a minimum. A new footbridge from the station will land in a workshop car park on Burford Road.
- The new DLR station at *Abbey Road* will be located to the north of Abbey Road. The tracks will be re-aligned towards the housing off Pond Road and Abbey House to create space for two side platforms. The main access to the station will be from Abbey Road.
- The new *Star Lane* (formerly known as Cody Road) DLR station will be located adjacent to Star Lane, in order to connect to the wider catchment area of this option, thereby helping to meet regeneration objectives for the area.
- A subway (rather than footbridge) link will be provided at the existing *Canning Town* station because it will connect directly into the existing concourse and provide improved interchange with other services.
- A rail flyover will be provided between the DLR routes to *Beckton* and *London City Airport*. It will enable significantly increased train flows (compared to a ground level junction), thereby increasing accessibility and helping to meet the regeneration objectives for the area.
- A third platform face will be provided at the existing DLR *Royal Victoria* station, to enable trains to turn around and to increase flexibility in train operations.



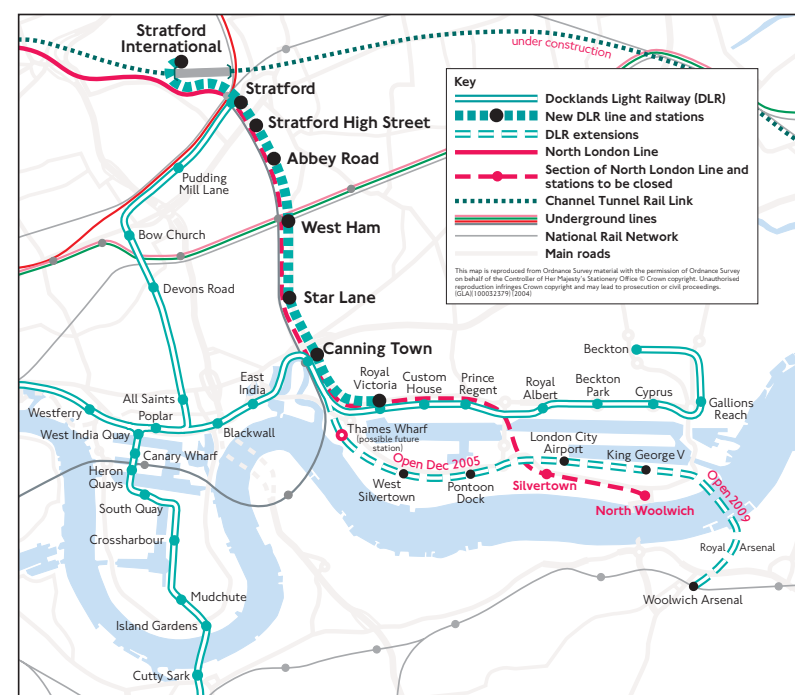
A description of the proposed Stratford International Extension and its operation

The Route

The extension scheme will run from a terminus at Stratford International station in the north to Royal Victoria station in the south. The North London Line will continue to operate into Stratford from the west but will terminate at new platforms to be built by DLR. The scheme consists of:

- four new DLR stations along the route of the existing North London Line – at Stratford International, Stratford High Street, Abbey Road and Star Lane;
- relocated and modified North London Line platforms at Stratford Regional station to accommodate DLR trains, and new platforms to the north for terminating North London Line trains;
- modified platforms and canopies at the existing West Ham station;
- a new subway link and lift at Canning Town station;
- a rail flyover between the DLR routes to Beckton and London City Airport, located between Canning Town and Royal Victoria DLR stations;
- a third platform, and lengthening of the existing platforms, at the existing DLR Royal Victoria station;
- upgraded electrical systems, including a new sub-station; and
- upgraded signalling systems.

All of the new and modified stations and other facilities will be constructed to enable 3-car trains to operate along the extension. All DLR trains are currently 2-car, but DLRL is planning to increase the capacity of the network by increasing train lengths.



During the construction of the scheme

It is envisaged that the scheme will be constructed over approximately a two and a half year period, between mid 2007 and late 2009, with the scheme opening in early 2010. Works along the route will be undertaken from 22 main worksites.

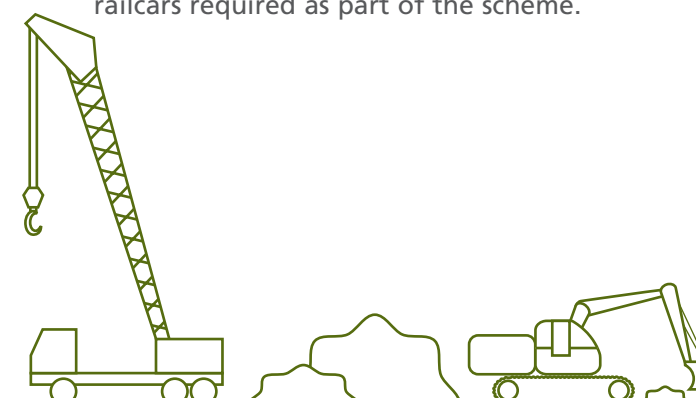
Most of the works south of Stratford Regional station will be undertaken during the daytime. The likely daytime hours of work in this section of the route will be 7.30am to 6.30pm on weekdays; and 8am to 1.30pm on Saturdays. These working hours include half hour start up and shut down periods during which time no potentially noisy construction equipment will be used. The start up and shut down periods are: 7.30am to 8am and 6pm to 6.30pm on weekdays. There will be a shut down period from 1pm to 1.30pm on Saturdays. Works at, and to the north of, Stratford Regional station may take place over longer periods, as is the case with the current works on the Stratford Rail Lands site. Night-time works will occasionally be required along the entire route – for example, to avoid working close to the operational railways in the area.

One of the first activities to be undertaken by the contractor at all stations will be to set up site offices and workers' welfare facilities such as a canteen, changing rooms, rest areas and a first aid/medical centre. Utility diversions and road realignment works will also be undertaken in the early stages at each site. The nature and location of the works is summarised below.

Design and operation

DLRL will operate up to 15 trains per hour from Stratford International on the North London Line with direct cross-river trains to Woolwich Arsenal and direct trains to Beckton. (Services are expected to be running to Woolwich Arsenal by early 2009.) The service will increase to 24 trains per hour during the 2012 Olympic Games, which will provide a service capacity of approximately 8,600 passengers per hour, per direction. In addition, increased service frequencies will occur on the DLR network before 2010 due to the introduction of the DLR London City Airport service at the end of 2005 and the Woolwich Arsenal Extension scheme. This has been taken into account in assessing the environmental impacts of the DLR Stratford International Extension scheme.

DLRL will procure a minimum of nine additional railcars required as part of the scheme.



A description of the proposed Stratford International Extension and its operation



Sequence of works

The sequence of works to construct the new stations along the route will typically be the following:

- diversions of utilities and highways, as appropriate;
- piling of foundations;
- installation of platform supports;
- installation of platform slabs;
- construction of station superstructure;
- construction of access stairs, escalators and lifts; and
- installation of platform finishes.

The sequence of works to modify the existing stations along the route will typically be the following:

- diversions of utilities and highways, as appropriate;

- construction of foundations for stairs and lifts (if included);
- construction of stairs / lifts (if included);
- construction of foundations for modified platforms (if required);
- construction of platform modifications;
- installation of platform finishes;
- installation of platform canopy; and
- installation of signalling.

The construction sequence for the rail flyover will be as follows:

- installation of sheet piles;
- demolition of an existing gantry;
- construction of bridge piers;
- construction of flyover sections; and
- installation of a replacement footbridge.

Summary of works required

Location	Modifications to Existing Stations														
	New							Modified							
	New Station	Platform	Stairs	Lift	Subway	Foot Bridge	Canopy	Platforms Raised	Platforms Lengthened	Platforms Shortened	Platforms Widened	Foot Bridge	Subway	Canopy Extended	Rail Flyover
Stratford International															
Stratford Regional (North London Line)															
Stratford Regional (DLR)															
Stratford High Street															
Abbey Road Station															
West Ham Station															
Star Lane Station	(1)														
Canning Town Station															
DLR Beckton / London City Airport Junction															
Royal Victoria															

(1) Existing pedestrian bridge to be removed.

Assessing the environmental impacts of the scheme

The impacts of constructing and operating the scheme have been assessed in consultation with statutory bodies and in accordance with Environmental Impact Assessment (EIA) regulations and guidance. The environmental topics that have been assessed as part of the EIA include:

- Planning;
- Socio-economics;
- Land Use and Land Take;
- Traffic and Transport;
- Noise and Vibration;
- Townscape and Visual;
- Ecology;
- Water Resources;
- Archaeology and Cultural Heritage;
- Air Quality and Dust; and
- Contaminated Land.

Positive and negative effects of the scheme

Overall, the scheme is in line with national, regional and local planning policy, including the Mayor’s transport strategy. Public consultation on the scheme has identified that the project has overwhelming public support and it is envisaged that it will have a major positive impact on the local area.

The project will inevitably cause a degree of disruption while it is being constructed, as with most major transport infrastructure projects. Construction equipment and hoardings are likely to be very visible. Significant noise disturbance may arise at a number of locations along the route during noisier construction activities. Drivers, public transport users, pedestrians and cyclists may also experience delays during temporary road and footway closures and diversions. The combination of these construction effects is likely to heighten any overall sense of disruption felt by those living and working close to the route of the scheme.

The scheme will have a number of significant positive effects. It will lead to significant long-term transport benefits through improvements in frequency, capacity, accessibility, reliability and journey quality. It will deliver positive socio-economic and regeneration benefits for the Lower Lea Valley, providing much needed transport infrastructure improvements servicing some of the key existing and proposed development sites in the area. The scheme will raise the density of development coming forward, especially on sites close to the new DLR network. In total, around 165,000 m² of additional floorspace will be generated by the Stratford International Extension. The scheme will also contribute towards the reduction of social exclusion through increased access to local employment opportunities and social facilities.

Dealing with the potential impact of constructing the scheme

Code of Construction Practice

A draft Code of Construction Practice (CoCP) has been developed for the proposed scheme, to minimise the impacts of construction. The draft CoCP will be advanced through discussions with the London Borough of Newham and other appropriate statutory bodies. The draft represents a minimum level of mitigation to which DLRL is committed.

The CoCP sets out the measures that will be used by the contractor to ensure site safety and good site practice with regard to the environment during construction works.

The CoCP contains relevant statutory codes, standards and legislation to regulate construction practice and its effects on health and safety and the environment. It sets out a range of good practice procedures to control noise, dust, site discharges and works traffic and measures to protect groundwater and aquifers during works. The CoCP will be included in the contractual arrangements between DLRL and its selected contractor. Adherence to the CoCP will, therefore, be compulsory. The CoCP requires the Contractor to provide a telephone information and complaints ‘hotline’ which is staffed at all times during working hours. The number for this hotline will be displayed prominently at all worksites.

Specific Measures

Noise

High noise levels are anticipated for locations along the route for short periods of time during construction works. A range of on-site measures, such as the use of low noise construction equipment, will be used to minimise noise impacts during construction. The precise form of these measures will be agreed with the London Borough of Newham before the works commence.

Visual

Temporary visual intrusion will be minimised by providing appropriate hoardings around worksites.

Pollution

Potential pollution impacts on watercourses and groundwater from site run-off and discharges will be mitigated through good site practice, as set out in the CoCP, and compliance with Environment Agency discharge consents.

Traffic

Temporary road closures and footway and cycle path diversions are inevitable during the construction phase. To reduce traffic disruption on fully, or partially closed roads, diversion routes will be put in place alongside temporary traffic management measures, which will be agreed with the highway authority in advance of works.

Construction traffic will be routed to main roads, where possible. Specific HGV routes will be agreed with Transport for London and the other highway authorities, aiming to avoid sensitive residential areas and unsuitable parts of the network wherever possible. Siting, design and layout of accesses for construction traffic will be agreed with the highway authority prior to works to ensure highway safety.

Ecology

Construction of the scheme will result in the loss of habitat along the route corridor. A range of mitigation measures will be implemented to reduce the risk of significant impacts to habitats and species of nature conservation importance.

Contaminants

Studies indicate that contaminants may be present in the ground at some locations along the route, due to the historic and ongoing land uses. An appropriate level of site clean-up will be used to deal with contaminated land. Site investigations will be undertaken before the works start to inform the clean-up measures. The works contractor will comply with the CoCP and relevant legislation with respect to safe handling and disposal of contaminated materials.

Dealing with the potential long-term impacts of operating the scheme



Consultation

In developing the Stratford International Extension scheme, DLRL and its consultants have held regular consultations with the London Borough of Newham, within whose administrative boundaries the scheme will run. DLRL has also consulted the public on two occasions, with exhibitions held at a number of locations along the route, and other relevant stakeholders. Details of all the consultations that have been carried out are contained in DLRL's Statement on Consultation, a separate document also being deposited with DLRL's application for a Transport and Works Act Order to authorise the Stratford International Extension.

Good operational standards will be applied and the project will be designed to minimise any environmental impacts.

Long-term impacts will result from alterations to the townscape and views in the vicinity of Stratford Rail Lands, Burford Road, Bridge Road, Abbey Road, Abbey Lane, Manor Road, Victoria Dock Road, Thames River/Lower Lea and at Royal Victoria development area. However, measures such as replacement or additional trees and planting will reduce these impacts in the longer term. The scheme will benefit the area along its route through localised areas of streetscape improvement, station upgrading and new urban planting for habitat and amenity.

DLRL operates a Noise and Vibration Policy and the Stratford International Extension scheme will

be designed to comply with this. The Policy sets out targets for trackside noise level, ground vibration and ground-borne noise. Adherence to these targets protects people living and working next to DLR rail tracks from potential noise and vibration impacts from trains. Noise barriers or noise insulation will be provided where practicable along the route of the project to attenuate noise levels from passing trains to avoid significant noise impacts.

Minor modifications will be made to the site of the former Stratford Langthorne Abbey (adjacent to the proposed Abbey Road station), which is a Scheduled Ancient Monument.

DLRL will ensure that any archaeological remains at the site will be preserved, if possible, during the works and will include information boards about the monument at the new station.

Significant traffic growth within the corridor is anticipated as a result of the numerous development and regeneration proposals in the area, irrespective of the implementation of the DLR Stratford International Extension. The scheme will generate some additional traffic. However, overall, the scheme will encourage more people to use public transport instead of road transport, in line with Government and local policies.

